

## Supplementary Notes on the Flora of Singapore.

BY H. N. RIDLEY.

The following notes, additions and corrections of the previous list, are based on identifications sent from Kew, and from the later numbers of King's Materials for the flora of the Malay Peninsula, together with notes on some plants collected in Singapore since writing the list.

*Magnolia Maingayi* King, (*Magnoliaceæ*). This charming and deliciously scented magnolia was unexpectedly discovered in the Garden jungle. Hitherto it has only been known as a hill plant in Perak and Penang, but as it has never been in cultivation in the Gardens I conclude that it cannot here be a garden escape. The flowers are creamy white, and open in the afternoon.

*Xylopiæ dicarpa* (*Anonaceæ*). Hook. fil, a tall tree, Bukit Timah.

*Limacia triandra* Miers. (*Menispermaceæ*). This is I find the plant mentioned under the name of *Hypserpa triflora* Miers.

*Brownlowia lepidota* (*Tiliaceæ*). In mangroves. Kranji.

*Br. Riedelii* Hemsl. (*Tiliaceæ*). Tree. Bukit Timah.

*Br. lanceolata* Benth. (*Tiliaceæ*). Flowers deep rose colour, a shrub in tidal mud. Gelang.

*Sloanea javanica* Miq. (*Tiliaceæ*). A tall tree with white flowers, Kranji (*Echinocarpus*).

*Gomphia Hookerii* var. *corymbosa* (*Ochnaceæ*). This name has been given for a medium sized tree with crowded white flowers, growing on the top of the hill at Bukit Timah. It is quite a different looking plant from the typical *G. Hookerii*.

Planch with its deep claret coloured flowers and must I think be a distinct species, but I cannot find that it has been described anywhere.

*Gongstylus Maingayi* Hook. fil. This abnormal and puzzling tree has been classed among the *Thymeleaceae*, and also among the *Tiliaceae*, and finally given an order all to itself *Gongstylaceae*. It is rather incompletely described in the Flora of British India, and a more complete account of it would not be out of place. It is a tree of no great size with smooth dark-coloured bark. Leaves oblong lanceolate acute coriaceous deep green with numerous close veins and smaller reticulated ones quite glabrous except for some appressed hairs along the midrib on the back, and a pubescent petiole. The blade is about six inches long and  $2\frac{1}{2}$  inches wide, the petiole thick half an inch long. The flowers are in lax axillary and terminal panicles about six inches in length and tomentose, they are arranged in threes on short thick tomentose peduncles. The pedicels are  $\frac{3}{4}$  inch long. The flowers  $\frac{1}{4}$  inch across green all pubescent. The sepals are five ovate triangular blunt valvate very thick pubescent outside and covered with thick long hairs inside. There are no petals but a close ring of setaceous processes as long as the stamens rises from the base of the petals. The stamens are very short, filaments very short and slender, anthers oblong basifixed. The pistil globose hairy, the style very slender and filiform. The fruit is oblong elliptic two inches long and one inch through, dark brown and woody pitted all over, when ripe splitting into two or three lobes more than  $\frac{1}{8}$  inch thick. Seeds two elliptic oblong nearly as long as the fruit and half an inch thick light brown.

It occurs in Singapore in the Garden Jungle, Bukit Mandai, Bukit Timah. Malacca at Brisu. Penang at Government Hill, and Balik Pulau. Perak at Tapa, Larut.

The fruit in herbarium specimens often splits long before it is ripe, hence the error in the Flora of British India where it is stated that the fruit is flat and semicircular. The Brisu and Bukit Timah specimens have very small narrow

leaves only three inches long and  $1\frac{1}{2}$  wide, but I have no reason to suppose that they belong to another species.

Two other species of this genus are recorded. *G. Miquelianus* Teyssm, and *G. Bancanus*, of which latter however I can find no description and it is probably the same thing. The first of these is well figured in Miquel's Ann. Lugd. Bat. vol. 1. Pl. 4. It is a native of Java, and is certainly very closely allied to our species, but the leaves are rather larger, the flower twice as large, and the fruit instead of being brown, rough and hard is larger, smooth and orange coloured. It is said to supply a kind of Garu wood.

*Triomma Malaccensis* Hook. fil. This remarkable tree seems never to have been completely described, the flowers having been hitherto practically unknown. A tree in the Botanic Gardens however flowered in November, and I therefore give a complete description of it:—

A tree about 60 feet tall with grey bark flaking from below, so that the stem is very rough. Leaves alternate exstipulate about six inches long, petiole swollen at the base, leaflets 7, petiolules  $\frac{1}{8}$  inch long, blade lanceolate acuminate, bases unequal,  $2\frac{1}{2}$ -3 inches long, coriaceous dark shining green above with paler nerves, pale green beneath, panicles subterminal shorter than the leaves, viscid pubescent branches shorter. Flowers  $\frac{1}{8}$  inch across green, scented like cowslips. Bracts minute ovate, pedicels  $\frac{1}{8}$  inch or a little longer viscid pubescent nodding. Sepals 5 ovate lanceolate pubescent. Petals longer lanceolate whitish green minutely pubescent. Disc narrow five lobed. Stamens very short 5 from within the disc, filaments short free. anthers dorsifixed small ovoid chestnut. Pistil trigonous green. Stigma 3 lobed yellow. Fruit capsular of three flat ovate coriaceous woody valves two inches long and as wide. Seed one in each cell  $\frac{1}{2}$  an inch long, surrounded by a thin brown wing ovate cordate in outline as large as the valve. Singapore, Malacca and Sumatra.

This tree is remarkable in the order for its really capsular fruit and thin large-winged fruit seed and unlike nearly all other species it has only five stamens, most *Burseraceæ* having ten. As mentioned in Journ. As. Soc., S. Br., Vol. 34, p. 91, when cut it exudes a very aromatic resin.

*Luvunga eleutheranthera* Dalz. In the list should be *L. scandens* Ham.

*Cedrela febrifuga* Forsten. (*Meliaceae*) occurs at Pongol, probably introduced.

*Salacia viminea* Wall. (*Celastrineae*) a climber, Garden Jungle.

*Smythea pacifica* Seem. (*Rhamnaceae*) A climber with green flowers. Serangoon River.

*Pygeum Maingayi* Hook fil. (*Rosaceae*) the plant mentioned under this name is *P. persimile* Kurz.

*Rourea similis* Bl. (*Connaraceae*). Climber, Bajau.

*Dioclea reflexa* Hook fil. (*Leguminosae*). A climber with violet and white flowers strongly scented of musk. Hedges by the Reservoir.

*Sonerila begoniaefolia* Bl. (*Melastomaceae*). *S. moluccana* Roxb. and *S. heterophylla* Herb. of the list. There is much doubt as to what Roxburgh's *S. Moluccana* was, so that the later name of *S. begoniaefolia* must be adopted.

*Medinilla Maingayi* C. B. C. This is the plant described as *Pachycentria glauca* Triana.

*M. crassinervia* Bl. is the plant called *M. macrocarpa* Bl.

*Pachycentria macrorrhiza* Bece should be *P. tuberculata* Korth.

*Pternandra*. King in the "Materials" reduces the species of *Pternandra* and *Kibessa* to three species.

- (1.) *Pt. coerulescens* Jack. var. *Jackiana* the common form var. *Capitellata*. (*Pt. capitellata*) and var. *paniculata* (*Pt. paniculata*).
- (2.) *Pt. echinata* Jack. (*Kibessia echinata* Cogn.) including *K. acuminata* Decne.
- (3.) The third species *Pt. Griffithii* King, I have not seen here.

*Memeaplan.* The following is a revised list of the Singapore species elucidated by the "Materials."

*M. pubescens* King. Tanglin, Nassim Hill.

*M. heteropleurum* Bl. Nipis Kulit, common.

*M. amplexicaule* Roxb. Chan Chu Kang.

*M. microstomum* Clarke. Changi.

*M. campanulatum* King. Garden Jungle (5763).

*M. myrsinoides* var. *lilacina* Chan Chu Kang.

*M. lævigatum* Bl. Common on sea coasts, Kranji, Sungei Buluh and Bukit Mandai.

*M. oleæfolium* Bl. A handsome small tree with copious small flowers petals pink stamens blue. Garden Jungle. Selitar.

*M. acuminatum* Bl. Bajau, Kranji.

*M. garcinioides.* Bukit Timah. Garden Jungle.

*M. edule* Roxb. Shrub or small tree usually near the sea. Common, Pulau Brani, Changi, Tampinis, Serimbun, Pulau Tekong and Sungei Morai.

*Var. ovatum.* Pulau Serapu. Pulau Merambong. A fair-sized tree, with larger panicles of blue flowers.

*Trichosanthes cucumerina* (*Cucurbitaceæ*). A small creeping pumpkin with white flowers and fusiform fruits, appeared in cleared ground in the Economic Garden near Dalvey Road.

*Webera Ridleyi* Pearson (*Rubiaceæ*). This is the name given to a pretty sweet scented white flowered shrub growing in wet woods at Chan Chu Kang and Mandai.

*Urophyllum trifurcum* Pears (*Rubiaceæ*). A new species of this genus. It is a small tree which grows in dense forest on Bukit Timah.

*Geophila pilosa* Pears. This is the plant named *Glirta* Miq. in the list. Mr. Pearson considers it distinct and new.

*Poederia foetida* Bl. In the list is identified as *P. verticillata* Bl. at Kew.

*Finlaysonia obovata* Wall. (*Asclepiadaceæ*). Tidal Rivers Rochore and Kranji etc. common. This curious plant grows in the form of a creeping shrub in the mud of the rivers, forming thick masses, eventually sending up long and climbing and twining stems, very milky when broken, which twine round the bushes for some height. The flowers which are not very commonly produced, are in spreading cymes pinkish. The follicles of the fruit, green tinted with purple, are large and thick. The flat seeds have a few hairs on the end.

*Willughbeia rufescens* Dyer. This is the plant mentioned in the previous list as *W. sp.* near *flavescens*. Changi, Chan Chu Kang and Jurong.

*Centranthera humifusa* Wall. (*Scrophulariaceæ*). A small prostrate plant with yellow flowers, brown in the throat. Rare, grassy spots. Along the Bukit Timah road about the 10th mile. Common in Malacca.

*Peronema canescens* Jack. (*Verbenaceæ*). A tree with pinnate leaves and corymbs of whitish flowers. It generally grows in damp spots near rivers. It is one of the few trees we have which regularly sheds its leaves completely. Bukit Mandai, Selitar Bungalow and Fort Canning.

*Jasminum anastomosans* Wall. (*Oleaceæ*). A rather slender climbing Jasmine obtained in the Maudai Woods near the new railway appears to belong to the species or at least to be closely allied. It has elliptic lanceolate acute leaves triplinerved rather thin in texture, 3 inches long by one wide, and short petioles. The panicles are axillary with a very slender peduncle an inch long and 3 or 4 flowers on slender pedicles  $\frac{1}{2}$  inch long. The calyx has 7 linear teeth  $\frac{1}{8}$  inch long, quite glabrous. The corolla is an inch and a half long with a slender tube  $\frac{3}{4}$  inch in length, the lobes narrow linear acuminate ten in number all white. The plant is completely glabrous. *T. Anastomosans* Wall. is a native of India.

*Bridelia pustulata* Hook fil. (*Euphorbiaceae*). A tree with yellow flowers and red drupes. Rogie, Tanglin.

*Br. stipularis* Bl. Small tree. Gaylang, Toa Payoh.

*Plukenetia corniculata* Sm. Akar Pina-Pina. A climbing plant racemes of minute green flowers and green four cornered capsules. Waste ground Economic Gardens, Chan Chu Kang.

*Heterosmilax indica* A. D. C. (*Liliaceae*). Tanjong Katong, collected by Mr. Hullett some years ago, not recorded for the peninsula previously.

*Naias graminea* var *angustifolia* Rendle (*Naiadaceae*). In a monograph in this genus Mr. Rendle makes the plant of the Gardens Lake to be this new variety of *N. graminea*.

*Rottboellia exaltata* L. (*Gramineae*). A weed in the Economic Gardens probably introduced accidentally.

*Trichomanes Motleyi* V. D. Bosch. This very curious little fern is abundant on trunks of trees in the Fern valley at Bukit Timah and at Stagmount. It looks more like a hepatic than a fern which is probably the reason for its being often overlooked. It has only been recorded from Borneo.